National Institute of Environmental Health Sciences

Association between diurnal temperature range and respiratory tract infections

Author(s): Ge WZ, Xu F, Zhao ZH, Zhao JZ, Kan HD
Year: 2013
Journal: Biomedical and Environmental Sciences : Bes. 26 (3): 222-225

Abstract:

OBJECTIVE: This study aimed to assess the association between emergency-room visits for respiratory tract infection (RTI) with diurnal temperature range (DTR), a weather parameter closely associated with urbanization and global climate change. METHODS: We conducted a semiparametric time-series analysis to estimate the percentage increase in emergency-room visits for RTI associated with changes in DTR after adjustment for daily weather conditions (temperature and relative humidity) and outdoor air pollution. RESULTS: DTR was significantly associated with daily emergency-room visits for RTI. An increase of 1 degrees C in the current-day (L0) and in the 2-day moving average (L01) DTR corresponded to a 0.94% [95% confidence interval (CI), 0.34%-1.55%] and 2.08% (95% CI, 1.24%-2.93%) increase in emergency-room visits for RTI, respectively. CONCLUSION: DTR was associated with increased risk of RTI. More studies are needed to understand the impact of DTR on respiratory health.

Source: http://dx.doi.org/10.3967/0895-3988.2013.03.009

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Meteorological Factors, Temperature

Air Pollution: Interaction with Temperature, Particulate Matter, Other Air Pollution

Air Pollution (other): SO2; NO2

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

Urban

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: China

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Morbidity/Mortality, Respiratory Effect, Other Health Impact

Respiratory Effect: Bronchitis/Pneumonia, Bronchitis/Pneumonia

Other Health Impact: emergency department visits

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified